CyberPower®
Reliability. Quality. Value.

AVRG750U / AVRG900U
User's Manual

K01-0000312-00

PRODUCT REGISTRATION

Thank you for purchasing a CyberPower product. Please take a few minutes to register your product at **www.cpsww.com/registration**. Registration certifies your product's warranty, confirms your ownership in the event of a product loss or theft and entitles you to free technical support. Register your product now to receive the benefits of CyberPower ownership.

IMPORTANT SAFETY INSTRUCTIONS

(SAVE THESE INSTRUCTIONS)

This manual contains important safety instructions. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate your UPS.

CAUTION! To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area free of conductive contaminants. (Please see specifications for acceptable temperature and humidity range).

CAUTION! To reduce the risk of electric shock, do not remove the cover except to service the battery. Turn off and unplug the unit before servicing the batteries. There are no user serviceable parts inside except for the battery.

CAUTION! Hazardous live parts inside can be energized by the battery even when the AC input power is disconnected.

CAUTION! The UPS must be connected to an AC power outlet with fuse or circuit breaker protection. Do not plug into an outlet that is not grounded. If you need to de-energize this equipment, turn off and unplug the unit.

CAUTION! To avoid electric shock, turn off the unit and unplug it from the AC power source before installing a computer component.

CAUTION! Not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/Data Processing Equipment, ANSI/NFPA 75.

CAUTION! To reduce the risk of fire, connect only to a circuit provided with 20 amperes maximum branch circuit over current protection in accordance with the National Electric Code, ANSI/NFPA 70.

DO NOT USE FOR MEDICAL OR LIFE SUPPORT EQUIPMENT! CyberPower Systems does not sell products for life support or medical applications. **DO NOT** use in any circumstance that would affect operation and safety of life support equipment, any medical applications or patient care.

DO NOT USE WITH OR NEAR AQUARIUMS! To reduce the risk of fire or electric shock, do not use with or near an aquarium. Condensation from the aquarium can cause the unit to short out.

DO NOT USE THE UPS ON ANY TRANSPORTATION! To reduce the risk of fire or electric shock, do not use the unit on any transportation such as airplanes or ships. The effect of shock or vibration caused during transit and the damp environment can cause the unit to short out.

INSTALLING YOUR UPS SYSTEM

INTRODUCTION

Thank you for selecting a CyberPower Systems UPS product. This UPS is designed to provide unsurpassed power protection, operation and performance during the lifetime of the product.

UNPACKING

Inspect the UPS upon receipt. The box should contain the following:

(a) UPS unit (b) User's manual (c) USB device cable

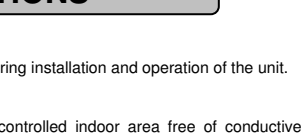
***PowerPanel® Personal Edition software is available on our website. Please visit www.cpsww.com and go to the Software Section for a free download.**

HOW TO DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

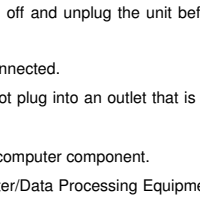
1. Ensure that the equipment plugged into the UPS does not exceed the UPS unit's rated capacity. If the rated capacities of the unit are exceeded, an overload condition may occur and cause the UPS unit to shut down or the circuit breaker to trip.
2. There are many factors that can affect the amount of power that your electronic equipment will require. For optimal system performance keep the load below 80% of the unit's rated capacity.

HARDWARE INSTALLATION GUIDE

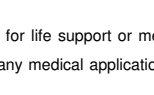
1. Your new UPS may be used immediately upon receipt. However, after receiving a new UPS, to ensure the battery's maximum charge capacity, it is recommended that you charge the battery for at least 8 hours. Your UPS is equipped with an auto-charge feature. When the UPS is plugged into an AC outlet, the battery will automatically charge whether the UPS is turned on or turned off.



2. With the UPS unit turned off and unplugged, connect your computer, monitor, and any other peripherals requiring battery backup into the battery power supplied outlets. Plug the other peripheral equipment (eg. printer, scanner, speakers, etc.) into the full-time surge protection outlets. **DO NOT plug a laser printer, paper shredder, copier, space heater, vacuum cleaner, sump pump, or other large electrical device into the "Battery and Surge Protected Outlets". The power demands of these devices will overload and possibly damage the unit.**
3. To protect a fax, phone, or modem line, connect a telephone cable from the wall jack outlet to the IN jack of the UPS. Connect a telephone cable from one of the UPS OUT jacks to the modem port on the computer. The other UPS OUT jack can be used to protect a telephone or fax machine.



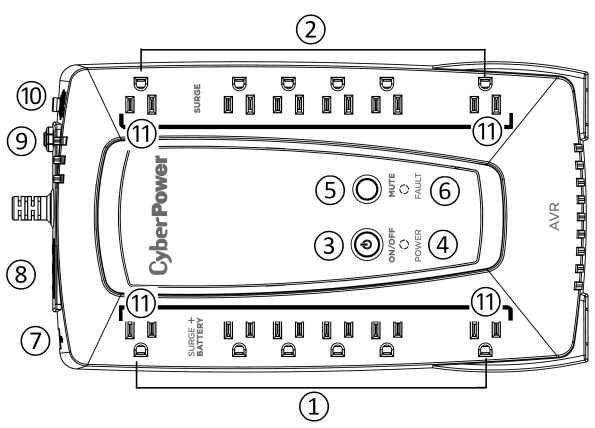
4. Plug the UPS into a 2 pole, 3 wire grounded receptacle (wall outlet). Make sure the wall branch outlet is protected by a fuse or circuit breaker and does not service equipment with large electrical demands (e.g. air conditioner, refrigerator, copier, etc.). The warranty prohibits the use of extension cords, outlet strips, and surge strips in conjunction with the UPS unit.



5. Press the power switch to turn the unit on. The Power On indicator light will illuminate green and the unit will "beep" once.
6. If an overload is detected, an audible alarm will sound and the unit will emit one long beep. To correct this, turn the UPS off and unplug at least one piece of equipment from the battery power supplied outlets. Make sure the circuit breaker is depressed and then turn the UPS on.
7. To maintain optimal battery charge, leave the UPS plugged into an AC outlet at all times.
8. To store the UPS for an extended period of time, cover it and store with the battery fully charged. While in storage, recharge the battery every three months to ensure optimal battery life.
9. Ensure the wall outlet and UPS are located near the equipment being attached for proper accessibility.

BASIC OPERATION

DESCRIPTION



1. **Battery and Surge Protected Outlets**
   The unit has six battery powered and surge protected outlets to ensure temporary uninterrupted operation of your equipment during a power failure. **(DO NOT plug a laser printer, paper shredder, copier, space heater, vacuum cleaner, sump pump, or other large electrical device into the "Battery and Surge Protected Outlets." The power demands of these devices will overload and possibly damage the unit.)**
2. **Full-Time Surge Protection Outlets**
   The unit has six surge suppression outlets.
3. **Power Switch**
   Used as the master on/off switch for equipment connected to the battery power supplied outlets.
   To turn the UPS ON, press the power button for approximately 2 seconds - you will hear a constant tone (1 second) - and release after a short beep.
   To turn the UPS OFF, press the power button for approximately 2 seconds - you will hear a constant tone (1 second) - and release after two short beeps.
4. **Power On Indicator**
   This LED is illuminated when the utility power is normal and the UPS outlets are providing power, free of surges and spikes.
5. **Mute Button**
   Press the button for 2 seconds to enable the audible alarm (beeps once) or disable (beeps twice) the audible alarm.
6. **Fault Indicator**
   This LED is illuminated if there is a problem with the UPS.
7. **USB Port**
   The USB port allows connection and communication between the USB port on the computer and the UPS unit.
8. **Communication Protection Ports**
   Communication protection ports will protect any standard modem, fax, or telephone line. (RJ11)
9. **Circuit Breaker**
   Located on the side of the UPS, the circuit breaker provides overload and fault protection.
10. **Ground Screw**
    The ground screw is used for any equipment that needs a chassis ground connection.
11. **Outlets Designed for AC Adapters**
    The UPS unit has four widely-spaced outlets. AC power adapters can be plugged into the UPS without overlapping or blocking adjacent outlets.

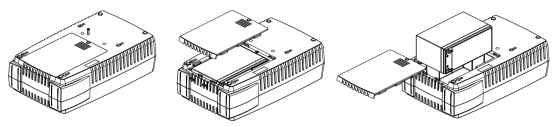
REPLACING THE BATTERY

Replacement of batteries located in an **OPERATOR ACCESS AREA**.

1. When replacing batteries, replace with the same number of the following battery: CyberPower / RB1270B for AVRG750U; CyberPower / RB1290A for AVRG900U.
2. CAUTION! Risk of Energy Hazard, 12V, maximum 9 Ampere-hour battery. Before replacing batteries, remove conductive jewelry such as chains, wrist watches, and rings. High energy through conductive materials could cause severe burns.
3. **CAUTION!** Do not dispose of batteries in a fire. The batteries may explode.
4. **CAUTION!** Do not open or mutilate batteries. Released material is harmful to the skin and eyes. It may be toxic.

CAUTION - RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO LOCAL REGULATIONS.

TO REPLACE THE BATTERY



1. Turn off and unplug all connected equipment.
2. Unplug it from the AC power source.
3. Turn the UPS upside down.
4. Remove the 1 retaining screw.
5. Slide the battery compartment cover completely off of the unit.
6. Remove the battery from the compartment.
7. Disconnect the battery wires from the battery.
8. Install the replacement battery by connecting the red wire and black wire to the positive (+) and negative (-) terminal of the battery.
9. Put the battery back into the compartment.
10. Slide back the battery compartment cover and tighten the retaining screw.
11. Charge the unit for 8 hours to fully charge the battery.

REMINDER: Batteries are considered **HAZARDOUS WASTE** and must be disposed of properly. Most retailers that sell lead-acid batteries collects used batteries for recycling, as required by local regulations.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Full-time surge protection outlets stop providing power to equipment. Circuit breaker button is projecting from the side of the unit.	Circuit breaker has been tripped due to an overload.	Turn the UPS off and unplug at least one piece of equipment. Wait 10 seconds, reset the circuit breaker by pressing the button, and then turn the UPS on.
The UPS does not perform expected runtime.	Battery not fully charged.	Recharge the battery by leaving the UPS plugged in.
	Battery is worn out.	Contact CyberPower Systems about replacement batteries at tech@cpsww.com.
The UPS will not turn on.	The on/off switch is designed to prevent damage from rapidly turning it off and on.	Turn the UPS off. Wait 10 seconds and then turn the UPS on.
	The unit is not connected to an AC outlet.	The unit must be connected to a 120V 60Hz outlet.
	The battery is worn out.	Contact CyberPower Systems about replacement batteries at tech@cpsww.com.
	Mechanical problem.	Contact CyberPower Systems at tech@cpsww.com.
	The frequency is outside of the operating range of 57-63Hz.	Turn the UPS off. Make sure the frequency range is within 57-63Hz. Or you can turn the UPS on in battery mode.
PowerPanel® Personal Edition is inactive (all icons are gray).	The USB cable is not connected.	Connect the USB cable to the UPS unit and an open USB port on the back of the computer.
	The USB cable is connected to a bad USB port.	Check for a different USB port and plug the cable in.
	The unit is not providing battery power.	Shutdown your computer and turn the UPS off. Wait 10 seconds and turn the UPS back on. This should reset the unit.

Additional troubleshooting information can be found at "Support" at www.CPSww.com

DEFINITIONS FOR LED INDICATORS & AUDIBLE ALARMS

Power	Fault	Alarm	CONDITION
On	Off	Off	**Normal**
On*	Off	Beep twice every 30 seconds	**Utility Failure-** The UPS is providing power to battery power-supplied outlets from its battery.

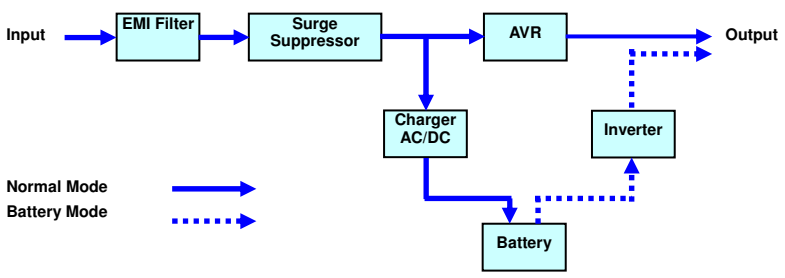
On*	**Off**	**Rapid beeping every 1/2 second**	**Utility Failure-** The UPS is providing battery power. Rapid beeping indicates the unit will run out of power soon.
On/Off	**Flash once every 5 seconds**	**Constant tone**	**Battery Mode or AC/Utility Power Mode Overload Fault-** Occurs when connected equipment exceeds the rating of battery outlets of the unit. Please unplug at least one piece of equipment from battery outlets.
Off	**Flash twice every 5 seconds**	**Constant tone**	**Battery Output Short Fault-** Please unplug at least one piece of equipment from battery outlets and turn on the UPS again. If the fault still exists, please contact CyberPower Systems for support.
On	**Flash 3 times every 5 seconds**	**Constant tone**	**Charger Fault-** Contact CyberPower Systems for support.

* When it beeps, the power on LED will flash accordingly.

TECHNICAL SPECIFICATIONS

Model	AVRG750U	AVRG900U
Capacity	750VA / 450W	900VA / 480W
Nominal Input Voltage	120Vac	
Input Frequency	60 Hz ± 3 Hz	
On-Battery Output Voltage	120Vac ± 5%	
Automatic Voltage Regulator (AVR)	Yes	
On-Battery Output Frequency	60Hz +/- 1%	
Max. Load for UPS Outlets	750VA / 450W	900VA / 480W
Max. Load for Full-Time Surge Protection outlets	12 Amps	
On-Battery Output Wave Form	Simulated Sine Wave Form	
Operating Temperature	+ 32℉ to 104° F / 0° C to 40° C	
Operating Relative Humidity	0 to 90% NON-CONDENSING	
Size (W x H x D)	12.2" x 7" x 3.5"	
Net Weight	13.44 lbs	14.04 lbs
Typical Battery Recharge Time	8 hours typical from total discharge	
Typical Battery Life	3 to 6 years, depending on number of discharge/recharge cycles	
Recommended Battery	Sealed Maintenance Free Lead Acid Battery	
Safety Approvals	UL1778(UPS), cUL107., FCC/DoC Class B	

SYSTEM FUNCTION BLOCK DIAGRAM



CYBERPOWER GREENPOWER UPS™ TECHNOLOGY

Advanced Energy-Saving Patented Bypass Technology

CyberPower's patented GreenPower UPS™ with Bypass Technology reduces UPS energy costs by up to 75% compared to conventional UPS models. Even when utility power is normal, conventional UPS models constantly pass power through a transformer. By contrast, under normal conditions the advanced circuitry of a GreenPower UPS™ bypasses the transformer. As a result, the power efficiency is significantly increased while decreasing waste heat, using less energy, and reducing energy costs.

When an abnormal power condition occurs, the GreenPower UPS™ automatically runs power through its transformer to regulate voltage and provide "safe" power. Since utility power is normal over 88% of the time, the GreenPower UPS™ operates primarily in its efficient bypass mode.

The GreenPower UPS™ is also manufactured in accordance with the Restriction on Hazardous Substances (RoHS) directive making it one of the most environmentally-friendly on the market today.

ENERGY-SAVING TECHNOLOGY

Limited Warranty and Connected Equipment Guarantee

Read the following terms and conditions carefully before using the CyberPower AVRG750U/ AVRG900U (the "Product"). By using the Product you consent to be bound by and become a party to the terms and conditions of this Limited Warranty and Connected Equipment Guarantee (together referred to as this "Warranty"). If you do not agree to the terms and conditions of this Warranty, you should return the Product for a full refund prior to using it.

Who is Providing this Warranty?

CyberPower Systems (USA), Inc. ("CyberPower") provides this Limited Warranty.

What Does This Warranty Cover?

This warranty covers defects in materials and workmanship in the Product under normal use and conditions. It also covers equipment that was connected to the Product and damaged because of the failure of the Product.

What is the Period of Coverage?

This warranty covers the Product for three years. Connected equipment is covered for as long as you own the Product.

Who Is Covered?

This warranty only covers the original purchaser. Coverage ends if you sell or otherwise transfer the Product.

How Do You Get Warranty Service?

1. Before contacting CyberPower, identify Your Product model number, the Purchase Date, and each item of Connected Equipment.
2. Email us at tech@cpsww.com or Call us at (877) 297-6937.
3. If your product requires warranty service you must provide a copy of your dated purchase receipt or invoice.

How Do You Open A Connected Equipment Claim?

1. Call us at (877) 297-6937 or write to us at Cyber Power Systems (USA), Inc., 4241 12th Ave. E., STE 400, Shakopee, MN 55379, or send us an e-mail message at claims@cpsww.com for instructions, within 10 days of the occurrence.
2. When you contact CyberPower, identify the Product, the Purchase Date, and the item(s) of Connected Equipment. Have information on all applicable insurance or other resources of recovery/payment that are available to the Initial Customer and Request a Claim Number.
3. You must provide a dated purchase receipt (or other proof of the original purchase) and provide a description of the damage to your connected equipment.
4. Pack and ship the product to CyberPower and, if requested, the item(s) of Connected Equipment, a repair cost estimate for the damage to the Connected Equipment, and all claim forms that CyberPower provides to you. Show the Claim Number on the shipping label or include it with the product. **You must prepay all shipping costs, you are responsible for packaging and shipment, and you must pay the cost of the repair estimate.**

How Long Do I Have To Make A Claim?

All claims must be made within ten days of the occurrence.

What Will We Do To Correct Problems?

CyberPower will inspect and examine the Product.

If the Product is defective in material or workmanship, CyberPower will repair or replace it at CyberPower's expense, or, if CyberPower is unable to or decides not to repair or replace the Product (if defective) within a reasonable time, CyberPower will refund to you the full purchase price you paid for the Product (purchase receipt showing price paid is required).

If it appears that our Product failed to protect any equipment plugged into it, we will also send you forms for making your claim for the connected equipment. We will repair or replace the equipment that was damaged because of the failure of our Product or pay you the fair market value (NOT REPLACEMENT COST) of the equipment at of the time of the damage. We will use Orion Blue Book, or another a third-party valuation guide, or eBay, craigslist, or other source to establish that amount. Our maximum liability is limited to $150,000 for the AVRG750U and $200,000 for the AVRG900U.

Who Pays For Shipping?

We pay when we send items to you; you pay when you send items to us.

What Are Some Examples Of What This Warranty Does Not Cover?

1. This Warranty does not cover any software that was damaged or needs to be replaced due to the failure of the Product or any data that is lost as a result of the failure or the restoration of data or records, or the reinstallation of software.

2. This Warranty does not cover or apply to: misuse, modification, operation or storage outside environmental limits of the Product or the equipment connected to it, nor for damage while in transit or in storage, nor if there has been improper operation or maintenance, or use with items not designed or intended for use with the Product, such as laser printers, appliances, aquariums, medical or life support devices, etc.

What Other Limitations Apply?

1. This Warranty does not apply unless the Product and the equipment that was connected to it were connected to properly wired and grounded outlets (including compliance with electrical and safety codes of the most current electrical code), without the use of any adapters or other connectors.

2. The Product must have been plugged directly into the power source and the equipment connected to the Product must be directly connected to the Product and not "daisy-chained" together in serial fashion with any extension cords, another Product or device similar to the Product, surge suppressor, or power tap. Any such installation voids the Limited Warranty.

3. The Product and equipment connected to it must have been used properly in a suitable and proper environment and in conformance with any license, instruction manual, or warnings provided with the Product and the equipment connected to it.

4. The Product must have been used at all times within the limitations on the Product's VA/Watt capacity.

5. The sole and exclusive remedies of the Initial Customer are those provided by this Warranty.

What Limitations Apply if there is Connected Equipment Guarantee (CEG) Coverage for My Product?

The Product was designed to eliminate disrupting and damaging effects of momentary (less than 1ms) voltage spikes or impulses from lightning or other power transients. If it can be shown that a voltage spike lasting longer than 1ms has occurred, the occurrence will be deemed outside the rated capabilities of the Product and the Limited Warranty is void. CyberPower Does Not Cover or Undertake Any Liability in Any Event for Any of the Following:

1. Loss of or damage to data, records, or software or the restoration of data or records, or the reinstallation of software.

2. Damage from causes other than AC Power Line Transients, spikes, or surges on properly installed, grounded and code-compliant 120 volt power lines in the United States and Canada; transients, surges or spikes on standard telephone land lines, PBX telephone equipment lines or Base 10T Ethernet lines, when properly installed and connected. (This exclusion applies, for example, to fluctuations in data transmission or reception, by CATV or RF transmission or fluctuations, or by transients in such transmission.)

3. Damage from any circumstance described as excluded above with respect to the Product.

4. Damages from fire, flood, wind, rain, rising water, leakage or breakage of plumbing, abuse, misuse or alteration of either the product or the Connected Equipment.

5. CyberPower excludes any liability for personal injury under the Limited Warranty and Connected Equipment Guarantee. CyberPower excludes any liability for direct, indirect, special, incidental or consequential damages, whether for damage to or loss of property [EXCEPT FOR (AND ONLY FOR) the specific limited agreement of CyberPower to provide certain warranty benefits regarding "Connected Equipment" under this Warranty], loss of profits, business interruption, or loss of information or data. NOTE: Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

6. The Product is not for use in high-risk activities or with aquariums. The Product is not designed or intended for use in hazardous environments requiring fail-safe performance, or for use in any circumstance in which the failure of the Product could lead directly to death, personal injury, or severe physical or property damage, or that would affect operation or safety of any medical or life support device (collectively, "High Risk Activities"). CyberPower expressly disclaims any express or implied warranty of fitness for High Risk Activities or with aquariums. CyberPower does not authorize use of any Product in any High Risk Activities or with Aquariums. **ANY SUCH USE IS IMPROPER AND IS A MISUSE OF THE PRODUCT.**

Where Can I Get More Information?

The application of the United Nations Convention of Contracts for the International Sale of Goods is expressly excluded.

CyberPower is the warrantor under this Limited Warranty.

For further information please feel free to contact CyberPower at CyberPower Systems (USA), Inc. 4241 12th Ave E., STE 400, Shakopee, MN 55379; call us at (877) 297-6937; or send us an e-mail message at claims@cpsww.com.

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